

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

1. Applicant/Contact name and address: **McFarland White Ranch Inc.  
PO Box 235  
Two Dot, MT 59085**
2. Type of action: **Application to Change an Existing Irrigation Water Right No. 40A 30072913 (Statement of Claim Nos. 40A 145870, 40A 145871 & 40A 145875).**
- 3.
4. Water source name: **Big Elk Creek**
5. Location affected by project: **The project is located in Wheatland County about 8.5 miles southwest of the town of Two Dot, Montana**
6. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

**The Applicant proposes to add a point of diversion and change places of use of Statement of Claim Nos. 40A 145870, 40A 145871 and 40A 145875. The proposal includes partially converting and utilizing the water associated with 608.5 acres of historic flood irrigation to irrigate 298.9 acres under two center pivot sprinklers and continue historic flood irrigation of 197.6 acres. The claims to be changed are historically supplemental to each other over 355.7 acres of the total 608.5 acres. The proposed flow rate is 12.61 CFS up to 768.9 AF for supplemental irrigation over 496.5 acres located in Sections 4, 5 and 7, T6N, R13E.**

**The two historic points of diversion from Big Elk Creek are the John Campbell ditch located in the SE NW NW Section 13 T6N R12E and the Moore-Williams ditch in the NW NE NW Section 13 T6N R12E. Water is diverted from Big Elk Creek via these two headgates and then the ditches deliver water to Bear Creek, which is used as a natural carrier for a short distance. The Big Elk Creek water is in turn diverted by a secondary headgate from Bear Creek located in the NE NW SW Section 7 T6N R13E. If authorized, the project will also include another secondary diversion (screen box) about 1/4-mile down ditch from Bear Creek that will allow water to gravity feed the two center pivots.**

7. Agencies consulted during preparation of the Environmental Assessment:  
(include agencies with overlapping jurisdiction)

**Dept. of Environmental Quality Website – Clean Water Act Information Center**

MT. National Heritage Program Website - Species of Concern  
 USDI Fish & Wildlife Service Website - Endangered and Threatened Species  
 MT State Historic Preservation Office - Archeological/Historical Sites  
 USDA Natural Resources Conservation Service – Web Soil Survey  
 USDI Fish & Wildlife Service – Wetlands Online Mapper

## **Part II. Environmental Review**

### **1. Environmental Impact Checklist:**

#### **PHYSICAL ENVIRONMENT**

##### **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

*Determination:*           **No Significant Impact.**

**Big Elk Creek is listed as a chronically dewatered stream by DFWP. The stream reach listed as chronically dewatered begins at river mile 0 and ends at river mile 10. Big Elk Creek also has FWP Instream Flow Protection/Qualifications of 9.5 CFS. The Applicant proposes to consume the same amount of water as has occurred historically and therefore no negative impacts to water quantity are expected. The table below contains information relating to DFWP's Water Reservation.**

Section: MOUTH to BIG ELK CR, LEBO FK Type: Water Reservation Granted River Miles: 0 to 23.9			
Begin Date	End Date	Flow (CFS)	Priority Date
01 / 01	12 / 31	9.50	07/01/1985

**Water quality** - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

*Determination:*           **No Significant Impact.**

**The DEQ website does not list any specific information regarding Big Elk Creek. This change should not have an impact to water quality, it is simply re-configuring the place of use and partially converting flood irrigation to pivot irrigation.**

**Groundwater** - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

*Determination:*           **No Significant Impact.**

**The proposed change should not have a significant impact on ground water quality or supply. New irrigated acres within the proposed place of use may realize an increase in seasonal water table elevations; in turn, the potentiometric water surface under acres being retired from flood irrigation should see a decrease in elevation.**

**DIVERSION WORKS** - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

*Determination:*           **No impact.**

**The two primary diversions will remain headgates on Big Elk Creek. This change will include a secondary gravity flow screenbox adjacent to the ditch and located in the SW NW NE Section 7 T6N R13E to supply the center pivot irrigation. No impacts to channel impacts, flow modifications, barriers, riparian areas, dams, and well construction are anticipated. The system is in place, therefore no further impacts due to diversion works are expected because of this project.**

**UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

**Endangered and threatened species** - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”*

*Determination:*           **No Significant Impact.**

**The Montana National Heritage Program lists three Species of Concern within Township 6 North, Range 13 East. The common names for the three bird species include the Long-billed Curlew, Sprague's Pipit and the Baird's Sparrow. The USDI Fish & Wildlife Service Report (Sept. 2017) indicates that Wheatland County has two Listed Endangered species, the Canada Lynx and Grizzly Bear. The report has one species listed as proposed, the Wolverine and one tree species listed as a candidate, the Whitebark Pine. No impacts to any of these species are expected as the project relates to land that has been disturbed by agriculture practices in the past. The proposal will slightly reconfigure the place of use by converting historical flood acres to pivot irrigation.**

**Wetlands** - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

*Determination:*           **No Significant Impact.**

**The National Wetlands Inventory website shows Freshwater Emergent Type Wetlands adjacent to and through a limited portion of the Applicant's claimed place of use. Wetlands should not be significantly impacted as a result of this project, there will be no substantial change to the irrigated place of use.**

**Ponds** - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

*Determination:*           **No Significant Impact.**

**This project does not involve a pond. No impact to wildlife, waterfowl, or fisheries is anticipated.**

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination:*           **No Significant Impact.**

**The NRCS Web Soil Survey shows the predominant soil unit under the proposed place of use is the Shawmut gravelly loam with 2 to 8 percent slopes. The soil is well drained but is somewhat limited by rapid water movement and low water holding capacity. The website indicates a 0.0 rating for sodium adsorption ratio. There is a low likelihood of significant impact to soil quality because of this project.**

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination:*           **No Significant Impact.**

**Much of the construction associated to this project was completed prior to this application. There could be disturbance from installation of the pipeline between pivots, however it would be considered short term and many impacts to existing cover will have already recovered. It is the responsibility of the land owner to control the spread of noxious weeds.**

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

*Determination:*           **No Significant Impact.**

**No impacts to air quality or adverse effects to vegetation are expected as a result of this proposal, the systems are gravity fed and pivots are electrically driven.**

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

*Determination:*           **No Significant Impact.**

**N/A – project not located on State or Federal Lands.**

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

*Determination:*           **No Significant Impact.**

**No additional impacts are anticipated.**

<b>HUMAN ENVIRONMENT</b>
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**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

*Determination:*           **No Significant Impact.**

**No locally adopted environmental plans or goals have been identified. The project is consistent with agriculture practices in the area.**

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

*Determination:*           **No Significant Impact.**

**The proposed action should not negatively impact recreational activities in the area. The project is located on private lands.**

**HUMAN HEALTH** - *Assess whether the proposed project impacts on human health.*

*Determination:*           **No Significant Impact.**

**No impacts to human health have been identified.**

**PRIVATE PROPERTY** - *Assess whether there are any government regulatory impacts on private property rights.*

*Yes*\_\_\_ *No* **X**\_\_\_ *If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

*Determination:*   **No known impacts.**

**OTHER HUMAN ENVIRONMENTAL ISSUES** - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

*Impacts on:*

- (a) Cultural uniqueness and diversity? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **Partial Change from Flood to Pivot Irrigation**
- (d) Quantity and distribution of employment? **None**
- (e) Distribution and density of population and housing? **None**
- (f) Demands for government services? **None**
- (g) Industrial and commercial activity? **None**
- (h) Utilities? **Slight Increase in Electrical Demand**
- (i) Transportation? **None**
- (j) Safety? **None**
- (k) Other appropriate social and economic circumstances? **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts – The Department expects that less return flows are expected in the riparian zone along Bear Creek and in turn, Big Elk Creek due to the conversion from flood to sprinkler irrigation. The Applicant proposes to divert less volume with the pivot system and as such, the timing of the flow regime will be modified. Secondary impacts are expected to be minor, more water will be available in the Big Elk Creek source during periods of pivot diversion and consumptive use for the new center pivot system as it relates to historic flood irrigation will not change.

Cumulative Impacts – More and more historic flood acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after partial conversion from flood to pivot irrigation, and water measurement will aid in controlling the amount of water diverted from the source.

3. *Describe any mitigation/stipulation measures:*

**No mitigation or stipulation measures have been identified by the Applicant. The Department may impose conditions, if authorized, to ensure required criteria are met.**

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

**No action alternative: Deny the application. This alternative would result in no change to the existing water rights for irrigation.**

*PART III. Conclusion*

**1. Preferred Alternative**

The preferred alternative is the proposed alternative.

**2 Comments and Responses**

None Received.

**3. Finding:**

Yes\_\_\_ No X Based on the significance criteria evaluated in this EA, is an EIS required?

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:*

**None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.**

*Name of person(s) responsible for preparation of EA:*

Name: Douglas Mann

Title: Water Resources Hydrologist – LRO

Date: 9/29/2017